In the Claims:

Please amend claims 1, 5 and 7-10, as follows:

1. (Amended) A method of forming a metal wiring in a semiconductor device, the method comprising:

providing a substrate with a lower metal layer overlying the substrate and an interlayer insulating film comprising first, second and third insulating films formed on the lower metal layer;

forming a damascene pattern comprising a trench and a via on the interlayer insulating film, a portion of the second insulating film forming a bottom of the trench, a portion of the lower metal layer forming a bottom of the via, the trench and the via each comprising a sidewall;

forming diffusion prevention film spacers on the sidewalls of the trench and the via;

selectively forming chemical enhancer layer on the portion of the second insulating film forming the bottom of the trench and on the portion of the lower metal layer forming the bottom of the via;

forming a copper layer on the diffusion prevention film spacer and chemical enhancer layers by means of chemical vapor deposition method; and

performing a hydrogen reduction annealing and a chemical mechanical polishing process to form a copper metal wiring from the copper layer.

5. (Amended) The method of claim 1, wherein the diffusion prevention film spacer comprises at least one material selected from the group consisting of ionized PVD TiN, CVD TiN, MOCVD TiN, ionized PVD Ta, ionized PVD TaN, CVD Ta, CVD TaN, CVD WN, CVD TiAlN, CVD TiSiN and CVD TaSiN.

7. (Amended) The method of claim 1, wherein the chemical enhancer layer is formed in a thickness ranging from about 50 to about 500 Å, using a material, selected from the group consisting of I (iodine)-containing liquid compound, Hhfac1/2H_2O, Hhfac, TMVS, pure I_0, I (iodine)-containing gas, and water vapor at a temperature ranging from about -20 to about 300°C for a time period ranging from about 1 to about 600 seconds.

8. (Amended) The method of claim 7, wherein the material is an I (iodine)-containing liquid compound selected from the group consisting of CH_3I, C_2H_5I, CD_3I and CH_2I_2.

9. (Amended) The method of claim 1, wherein the chemical enhancer layer is formed in a thickness ranging from about 50 to about 500Å, using a material selected from the group consisting of F, Cl, Br, I and At in a liquid state at a temperature ranging from about -20 to about 300°C for a time period ranging from about 1 to about 600 seconds.

Amended

10. (Amended) The method of claim 1, wherein the chemical enhancer layers are formed in a thickness ranging from about 50 to about 500Å, using a material selected from the group consisting of F, Cl, Br, I and At in a gas state at a temperature ranging from about -20 to about 300°C for a time period ranging from about 1 to about 600 seconds.

REMARKS

Claims 1-11 are pending in the present application.

Claims 1, 7 and 9 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response, applicant has amended claim 1, 7 and 9 to address the concerns of the Patent Office. Applicant respectfully submits that this amendment is fully supported by the disclosure in the original application as recited at least on page 4, lines 10-33 of the specification. Applicant also asserts that claims 1, 7 and 9, as amended, fully comply with the requirements of 35 U.S.C. § 112, second paragraph. A chemical enhancer layer is explained below in detail for the examiner's better understanding of the layer.

A chemical enhancer layer has a selective reaction property in which it rarely reacts with an oxide material and well reacts with a nitride material and a metal. The chemical enhancer layer is not formed on the oxide material, but only on a nitride material and a metal layer. Therefore, copper is deposited on the chemical enhancer layer much faster than on the oxide material.